

XL.—*Descriptions of recently discovered Species, and Characters of a new Genus, of Araneidea from the East of Central Africa.*

By JOHN BLACKWALL, F.L.S.

THE Spiders described in the following pages were captured in the region through which the river Shiré flows to its confluence with the Zambesi, by Mr. Horace Waller, at the particular request of Mr. Richard Thornton, made shortly before he fell a victim to the climate of Africa. These specimens were comprised in a collection of *Araneidea* forwarded by the relatives of Mr. Thornton to my friend Mr. Meade, who transmitted it to me for the purpose of having its contents examined and descriptions made of such species as might appear to be new to arachnologists, being prevented himself from bestowing the requisite time on the undertaking, for which he is so well qualified, by his numerous professional engagements.

The late Mr. R. Thornton accompanied Dr. Livingstone in his last expedition to South Africa, in the capacity of geologist; and Mr. H. Waller held the appointment of lay superintendent of the mission to the Zambesi.

Tribe Octonoculina.

Family LYCOSIDÆ.

Genus CTENUS, Walck.

Ctenus velox.

Length of the female $\frac{7}{12}$ ths of an inch; length of the cephalothorax $\frac{1}{3}$, breadth $\frac{1}{4}$; breadth of the abdomen $\frac{1}{3}$; length of a posterior leg $1\frac{2}{6}$; length of a leg of the third pair $\frac{1}{3}$.

The eyes are disposed on the anterior part of the cephalothorax in three transverse rows; the two anterior ones, with the two intermediate ones of the four constituting the second row, describe a trapezoid whose shortest side is before; and each of the two eyes forming the posterior row, with a lateral one of the second row, is seated on a tubercle; the intermediate eyes of the second row are the largest, and the lateral ones, which are in a line with them, much the smallest of the eight. The cephalothorax is truncated in front, compressed before, and rounded on the sides, which are depressed and marked with furrows converging towards a narrow indentation in the medial line of the posterior region; it is clothed with short, dull-yellowish hairs, and is of a reddish-brown colour, with narrow, dark-brown lateral margins, parallel to which a broad, rather obscure, yellowish-brown band, having its superior margin somewhat dentated, extends along each side; a narrow, pale red-brown band passes from between the posterior pair of eyes to its base, and

comprises in its anterior part a fine dark-brown line that terminates at the medial indentation. The falces are powerful, conical, vertical, armed with teeth on the inner surface, provided with long yellowish hairs, and have a dark-brown hue. The maxillæ are long, straight, and truncated obliquely at the extremity on the inner side, which is fringed with reddish hairs; and the lip is short, broad, and somewhat quadrate, but rounded on the sides. These parts are of a reddish-brown colour, the outer side of the maxillæ and the base of the lip being much the darkest. The sternum, which has a broad oval form, is clothed with short greyish hairs, interspersed with long upright ones of a darker hue, and is of a pale red-brown colour. The legs are long, provided with hairs and sessile spines, and of a reddish-brown hue; the fourth pair is the longest, then the first, and the third pair is the shortest; the metatarsi and tarsi have hair-like papillæ on their inferior surface, and the latter are terminated by two curved claws, pectinated at their base. The palpi are long, and resemble the legs in colour (with the exception of the base of the humeral joint, which has a brighter tinge of red), and have a short, curved, pectinated claw at their extremity. The abdomen is oviform, hairy, convex above, and projects a little over the base of the cephalothorax; the upper part and sides are of a brown colour freckled with yellowish grey, and a broad dentated band of a yellower hue, bordered with black, extends along the middle of the former, and comprises a longitudinal yellow band in its anterior half; a broad, triangular, black mark, having its truncated apex directed backwards, and comprising within its base two oval white spots placed transversely, occurs on the under part; it is bounded on each side by a bright orange-red band, and these bands converge to the spinners, where they meet; the sexual organs, which are highly developed, have a large process directed backwards from their anterior margin, and, with the branchial opercula, are of a dark reddish-brown hue, the latter being the paler.

The specimen from which the description was made was the only one of the species in the collection.

Ctenus vividus.

Length of the female $\frac{1\frac{1}{2}}{10}$ ths of an inch; length of the cephalothorax $\frac{1\frac{3}{4}}{10}$, breadth $\frac{5}{14}$; breadth of the abdomen $\frac{5}{10}$; length of an anterior leg $1\frac{4}{5}$; length of a leg of the third pair $1\frac{3}{10}$.

The disposition and relative size of the eyes of this species are similar to those of *Ctenus velox*. The legs are long, robust, provided with hairs and sessile spines, and of a yellowish-brown colour; the first pair is the longest, then the fourth, and the third pair is the shortest; the metatarsi and tarsi have hair-like

papillæ on their inferior surface, and the latter are terminated by two curved claws, pectinated at their base. The palpi are long, and resemble the legs in colour; and the digital joint, which is strongly tinged with brown, has a short, curved, pectinated claw at its extremity. The cephalothorax is truncated in front, compressed before, and rounded on the sides, which are depressed and marked with furrows converging towards a narrow indentation in the medial line of the posterior region; it is clothed with hairs, and of a brown colour, with a broad yellowish-brown band (whose superior margin is somewhat dentated) extending along each side, and a narrow longitudinal one in the middle, which comprises a fine brown line in its anterior part. The falces are powerful, conical, vertical, and densely clothed with yellow hairs at the base in front; the maxillæ are straight, enlarged at the extremity, which is rounded on the outer side, and obliquely truncated on the inner side, where it is supplied with long hairs; and the lip is short, broad, and somewhat quadrate, but rounded on the sides. These parts have a red-brown hue, the falces being much the darkest. The sternum has a broad oval form, with small eminences on the sides, opposite to the legs; it is thinly clothed with long hairs, and of a dark-brown hue, with a faint tinge of yellow in the medial line. The abdomen is oviform, hairy, convex above, and projects a little over the base of the cephalothorax; it is of a dull pale-yellow colour, streaked and spotted with brown, the under part, which is the yellowest, being marked with the fewest and smallest spots; a broad, dentated, dull-yellow band, bordered with brown, and comprising a longitudinal row of irregular brown spots, extends along the middle of the upper part, and on each side of it there is a series of brownish-black spots; the sexual organs are moderately developed, with a large process directed backwards from their anterior margin, whose extremity is dilated; these organs, with the branchial opercula, are of a brownish-yellow colour, the latter being the paler.

The collection contained six females of this species, five of which were immature.

Genus PASITHEA, Blackw.

Pasithea pulchra.

Length of the female $\frac{1}{10}$ ths of an inch; length of the cephalothorax $\frac{5}{16}$, breadth $\frac{5}{16}$; breadth of the abdomen $\frac{5}{16}$; length of an anterior leg $1\frac{1}{2}$; length of a leg of the third pair $1\frac{1}{6}$.

The eyes are unequal in size, and disposed in three transverse rows on the anterior part of the cephalothorax, high above its frontal margin; the four posterior ones form a curved row

whose convexity is directed backwards, and the other four describe a trapezoid whose shortest side is before; the posterior eyes of the trapezoid are seated on tubercles, and are the largest, and the anterior ones, which are near to each other, are much the smallest of the eight; the entire group describes a sector of a circle, whose radii converge towards the frontal margin. The cephalothorax is convex, glossy, compressed before, vertical in front, rounded on the sides, which are marked with slight furrows converging towards an indentation in the medial line of the posterior region, and has a few black bristles behind and before the eyes; it is of a yellow-brown colour, with a broad, angular, pale-yellowish mark on the posterior part of the cephalic region, whose vertex extends to the medial indentation, and has a small red spot on each side, towards its termination; this angle is bisected by a faint line of the same hue, which originates at the intermediate eyes of the posterior row; the space comprised between the large posterior eyes of the trapezoid and those of the posterior row is of a dark-brown colour; a red-brown line extends from each minute anterior eye to the frontal margin, and there is a parallel one of the same hue on each of its external angles. The falces are long, powerful, subconical, and vertical; they are of a dull-yellow colour, with longitudinal lines of a red-brown hue, corresponding to those in front of the cephalothorax, the exterior ones being the shortest. The maxillæ are long, convex near the base, which is curved towards the lip, but straight and pointed at the extremity; the lip is much shorter than the maxillæ, somewhat triangular, and hollowed at the apex; and the sternum is heart-shaped, with a few black bristles distributed over its surface. These parts are of a pale-yellowish colour tinged with green, the sternum being the palest. The legs are very long, slender, provided with hairs and long spines, and are of a yellow colour, spotted with brownish black, a longitudinal red line, of greater or less extent, occurring on the inferior surface of the femora; the first pair is the longest, then the second, and the third pair is the shortest; each tarsus is terminated by three claws; the two superior ones are curved and pectinated, and the inferior one is inflected near its base. The palpi resemble the legs in colour, but are without any red line on their inferior surface, and have a curved pectinated claw at their extremity. The abdomen is of an oblong-oviform figure, somewhat pointed at the spinners, convex above, and projects a little over the base of the cephalothorax; it is sparingly supplied with hairs, and of a pale-yellow colour, finely reticulated with dull green; a yellow band, streaked and freckled with red, and strongly dentated on its inner margin, extends from the anterior extremity of the upper part along each side of the medial line

to the spinners, where the two meet; and in the anterior part of the space comprised between the two bands there is a short longitudinal one, of a dark dull-greenish colour, which is rather irregular in outline, ramified at its posterior extremity, and has a short transverse bar of the same hue near its anterior extremity; a somewhat obscure yellow band extends along each side of the medial line of the under part, and two nearly parallel, irregular, fine, black lines pass from the sexual organs halfway towards the spinners; the sexual organs are highly developed, with a strong septum in the middle, and are of a very dark greenish colour, tinged with red, that of the spinners being pale green.

Two adult females were comprised in the collection, one of which had deposited its ova.

It is proposed to transfer the Spiders of the genus *Pasithea* from the family *Thomisidæ*, in which they were originally placed, to that of the *Lycosidæ*, as, by the disposition of their eyes and the structure of their legs, they evidently possess a relation of affinity to certain species of the genus *Sphasus*.

Family THOMISIDÆ.

Genus SELENOPS, Dufour.

Selenops alacer.

Length of the female $\frac{3}{4}$ ths of an inch; length of the cephalothorax $\frac{5}{8}$, breadth $\frac{5}{8}$; breadth of the abdomen $\frac{1}{3}$; length of a leg of the third pair $1\frac{1}{10}$; length of a leg of the first pair 1.

The eyes are disposed on the anterior part of the cephalothorax; four, nearly equal in size, form, immediately above the frontal margin, a slightly curved transverse row, whose convexity is directed forwards; the eyes of each lateral pair are seated obliquely on a tubercle apart, the two anterior ones, which are oval and the smallest and lightest-coloured, being situated a little in advance of the lateral eyes of the transverse row; and this row, if extended, would include in its curve the two posterior eyes, which are the largest of the eight. The cephalothorax is large, depressed, compressed before, slightly rounded in front, and greatly so on the sides, which are strongly marked with furrows converging towards an oblong indentation in the medial line of the posterior region; it is of a red-brown colour, and is supplied with hoary hairs having a yellowish tint. The falces are short, powerful, conical, very convex in front, vertical, and armed with a few teeth on the inner surface; the maxillæ are straight, and increase in breadth towards the extremity, which is obliquely truncated on the inner side; and the lip is semi-circular. These parts are of a dark-brown colour, tinged with

red; the falces are the darkest, and the extremity of the maxillæ and apex of the lip have a brownish-yellow hue. The sternum is nearly circular; the legs are long, robust, and provided with hairs and spines; their relative length could not be ascertained, as the second pair was missing; but the third pair is a little longer than the fourth, which somewhat surpasses the first pair; each tarsus is terminated by two plain, curved claws, and below them there is a scopula; the palpi are short, and the digital joint, which is provided with spines, has a curved, minutely pectinated claw at its extremity. These parts are of a red-brown colour; the sternum is the palest, and the metatarsal joint of the legs and the digital joint of the palpi are the darkest-coloured. The abdomen is of a depressed oviform figure, and the anterior extremity, which is fringed with fine bristles, and has the appearance of having been cut directly across, projects very little over the base of the cephalothorax; it is clothed with hoary hairs having a yellowish tint, and is of a dull brownish-yellow colour, obscurely freckled with brown, particularly on the upper part and sides; the sexual organs are moderately developed, and have a triangular reddish-brown process connected with each lateral margin, whose vertices nearly meet, a small semi-circular one of the same hue directed forwards from the posterior margin, and a larger semicircular process of a reddish-yellow colour, directed backwards from the anterior margin.

The collection contained two adult females of this species.

Family THERIDIIDÆ.

GENUS LATRODECTUS, Walck.

Latrodectus cinctus.

Length of the female $\frac{3}{8}$ ths of an inch; length of the cephalothorax $\frac{1}{8}$, breadth $\frac{3}{10}$; breadth of the abdomen $\frac{1}{4}$; length of an anterior leg $\frac{7}{8}$; length of a leg of the third pair $\frac{1}{2}$.

The abdomen is very convex above, thinly clothed with hairs, and projects over the base of the cephalothorax; it is of a brownish-black colour, with an oblong mark extending upwards from the spinners, and three curved transverse bands of a deep orange-colour on the upper part; the first of these bands is the shortest, and is situated in front, the second is longer, and the third, which is much the longest, and curved very obliquely, increases in breadth towards its extremities, whose pointed termination is in contact with the posterior extremity of the oblong orange-coloured mark above the spinners; the sexual organs are well developed, and of a dark-brown hue, tinged with red, that of the branchial opercula being red-brown. Immature females are of a pale-yellow hue where adults are orange-coloured. The

eyes are disposed on the anterior part of the cephalothorax, high above the frontal margin, in two transverse, nearly straight rows; the four intermediate ones almost form a square, the two anterior ones, which are seated on a prominence, being rather nearer to each other than the two posterior ones; the lateral eyes of both rows are the largest, and each is placed on a tubercle. The cephalothorax is oval, somewhat convex, hairy, and has a large indentation in the medial line of the posterior region; the maxillæ are short, obliquely truncated at the extremity, on the outer side, and inclined towards the lip, which is broad and semicircular; the sternum is heart-shaped; the legs are robust and hairy; the first pair is the longest, then the fourth, and the third pair is the shortest; each tarsus is terminated by three claws; the two superior ones are curved and pectinated, and the inferior one is inflected near its base; the palpi are moderately long, and have a curved, pectinated claw at their extremity. These parts are of a dark-brown colour, the extremity of the maxillæ having a yellowish-brown tint. The falces are conical, vertical, and of a red-brown hue.

An adult and an immature female of this *Latrodectus* were comprised in the collection.

Family EPEIRIDÆ.

Genus EPEIRA, Walck.

Epeira vigilans.

Length of the female $\frac{9}{16}$ ths of an inch; length of the cephalothorax $\frac{1}{4}$, breadth $\frac{1}{2}$; breadth of the abdomen $\frac{3}{8}$; length of an anterior leg $\frac{1}{8}$; length of a leg of the third pair $\frac{7}{16}$.

The cephalothorax is convex, compressed before, rounded in front and on the sides, with an indentation in the medial line of the posterior region; it is thinly clothed with yellowish-grey hairs, and is of a red-brown colour, the sides being much the darkest. The falces are powerful, conical, vertical, and armed with teeth on the inner surface; the maxillæ are short, straight, and enlarged and rounded at the extremity; and the lip is semicircular, but somewhat pointed at the apex. These parts are of a pale red-brown colour, the extremity of the maxillæ and the apex of the lip having a pale-yellow hue. The sternum is heart-shaped, with small eminences on the sides, opposite to the legs, and is of a dull-yellow colour, tinged with brown on the lateral margins. The eyes are disposed on the anterior part of the cephalothorax in two transverse rows; the four intermediate ones are seated on a protuberance, and describe a trapezoid, the two anterior ones, which are the largest of the eight, being wider apart than the posterior ones; the eyes of each lateral pair are

placed obliquely on a small tubercle, and are near to each other, but not in contact. The legs are long, provided with hairs and spines, and of a red-brown colour, strongly tinged with brown at the extremity of the joints; the first pair is the longest, then the second, and the third pair is the shortest; the tarsi are terminated by claws of the usual number and structure. The palpi are of a red-brown hue, and have a curved, pectinated claw at their extremity. The abdomen is of a depressed oviform figure, and projects over the base of the cephalothorax; it is thinly clothed with short pale hairs, and of a dull-yellow colour, with a large oval brown mark on each side of its anterior extremity; a triangular brown spot, whose vertex extends between the two oval marks, occurs in the medial line of the upper part, and comprises three pairs of short oblique black streaks; this triangular spot, which has a strongly marked streak of the same hue directed obliquely outwards and backwards from each side, is followed by a large, pale-brown, leaf-shaped mark that tapers to the spinners, and has its sinuous margins bordered by a fine black line whose continuity is much interrupted; the middle of this mark is occupied by a longitudinal, taper, yellow band, crossed by lines of the same hue, and comprising some short black streaks in its anterior part, and several fine, long, brown lines in its posterior part; two depressed dark-brown spots, situated on each side of the medial line, nearly form a square, the two posterior ones being larger and rather wider apart than the anterior ones; the sides are marked transversely with numerous fine brown lines, most of which meet at their superior extremities; the under part has longitudinal brown streaks on its sides, and a large dark-brown mark in the middle, whose contracted extremity extends to the spinners; it has an obscure yellowish hue in the medial line, and is bordered anteriorly and laterally with yellow, two spots of the same hue occurring on each side of the brown spinners; the sexual organs, which are not highly developed, have a long process directed backwards from their anterior margin, whose surface is concave and extremity rounded; they are of a red-brown colour, that of the branchial opercula being yellowish-brown.

Three adult females of *Epeira vigilans* were included in the collection.

Genus NEPHILA, Leach.

Nephila Keyserlingii.

Length of the female $1\frac{3}{16}$ inch; length of the cephalothorax $\frac{1}{4}$, breadth $\frac{5}{16}$; breadth of the abdomen $\frac{1}{2}$; length of an anterior leg $2\frac{7}{8}$; length of a leg of the third pair $1\frac{1}{4}$.

The eyes are disposed on the anterior part of the cephalo-

thorax in two transverse rows; the four intermediate ones nearly form a square, the two anterior ones, which are seated on a protuberance, and are rather nearer to each other than the two posterior ones, being the largest of the eight; the eyes of each lateral pair are placed obliquely on a prominent tubercle, and are separated by a considerable interval. The cephalothorax is long, somewhat convex, particularly in the cephalic region, truncated in front, compressed before, moderately rounded on the sides, which are marked with furrows converging towards a transverse pair of indentations in the medial line of the posterior region, and has two conical glossy eminences placed transversely near its middle; it is of a dark-brown colour, which is almost concealed by a covering of short, adpressed, white hairs having a silvery lustre. The falces are powerful, conical, vertical, glossy, convex at the base, in front, and armed with teeth on the inner surface; the maxillæ are short, strong, and greatly enlarged and rounded at the extremity; and the lip is somewhat oval. These parts are of a very dark brown colour, the extremity of the maxillæ, the apex of the lip, and a line extending along the middle of the latter having a dull-yellow hue. The sternum is heart-shaped and glossy, with prominences on the sides, and a somewhat pointed one opposite to the base of the lip; it is of a bright yellow colour, with a large, irregular, transverse dark-brown mark in the middle, and narrow lateral margins of a similar hue. The legs are very long, slender, provided with fine spines and hairs, the latter being the longest and densest on the inferior surface and sides of the tibiæ of all the legs except those of the third pair; they are of a yellow colour; a broad annulus near the middle and a narrow one at the extremity of the femora, the genua, the base, and a broad annulus near the middle of the tibiæ of the first and second pairs, the extremity of the femora, the genua and tibiæ of the third pair, and the extremity of the femora, the genua, and about two-thirds of the tibiæ from the base of the fourth pair, with the metatarsi and tarsi of all the legs, have a dark-brown hue; the first pair is the longest, then the second, and the third pair is the shortest; the tarsi are terminated by claws of the usual number and structure. The palpi are short, and of a yellow colour, the digital joint, which has a curved, slightly pectinated claw at its extremity, being strongly tinged with brown. The abdomen is subcylindrical, projecting over the base of the cephalothorax, and is broader at the anterior than at the posterior extremity, which is rounded and extends beyond the spinners; it is thinly clothed with short hoary hairs on the upper part and sides, and is of an olive-brown colour, the under part being the darkest; a broad, yellow, transverse band near the anterior extremity passes along the upper part of each

side to the posterior extremity, its posterior half being irregular in outline, particularly on its superior margin; four large yellow spots are disposed longitudinally in the medial line, and a series of four small, depressed, brown spots occurs on each side of it; several fine brown lines extend along the middle, which are most conspicuous on the yellow spots; a yellow band, whose posterior half is broken into spots and streaks, some of which are covered with white hairs, passes along the lower part of each side to the spinners, and above those organs there are six small yellow spots disposed in pairs; on the under part a yellow, curved, transverse band passes immediately below the sexual organs, and midway between those organs and the spinners there is an irregular transverse band of the same hue; the sexual organs are well developed and prominent, the anterior margin being oval, and the posterior one somewhat triangular; these organs, with the spinners and branchial opercula, have a dark-brown hue, that of the inner margin of the opercula being pale-yellow.

The collection contained four females of this large and handsome species of *Nephila*, with which I have connected the name of M. Keyserling, whose researches in this department of arachnology have contributed greatly to extend our knowledge of the *Epeirida*.

Nephila venusta.

Length of the female $\frac{4}{3}$ ths of an inch; length of the cephalothorax $\frac{3}{10}$, breadth $\frac{5}{4}$; breadth of the abdomen $\frac{3}{10}$; length of an anterior leg $1\frac{2}{3}$; length of a leg of the third pair $\frac{7}{8}$.

The legs are long, slender, provided with fine spines and hairs, the latter being the longest and most abundant on the tibiae and base of the metatarsi of the first, second, and fourth pairs; they are of a reddish-brown colour, the metatarsi and tarsi being the darkest; the first pair is the longest, then the second, and the third pair is the shortest; the tarsi are terminated by claws of the usual number and structure. The palpi are short, and paler than the legs, the extremity of the radial and the whole of the digital joint being strongly tinged with brown; the latter is supplied with long hairs and spines, and has a curved, slightly pectinated claw at its extremity. The eyes are disposed on the anterior part of the cephalothorax in two transverse rows; the four intermediate ones nearly form a square, the two anterior ones, which are seated on a protuberance, and are rather nearer to each other than the two posterior ones, being the largest of the eight; the eyes of each lateral pair are placed obliquely on a prominent tubercle, and are separated by a considerable interval. The cephalothorax is long, somewhat convex, particularly in the cephalic region, truncated in front, compressed before, moderately rounded on the sides, which are marked with

furrows converging towards a transverse pair of indentations in the medial line of the posterior region, and has two small, conical, glossy eminences placed transversely near its middle, and numerous very minute ones on its lateral margins; it is of a very dark brown colour, which is almost concealed by a covering of short, adpressed white hairs having a silvery lustre. The falces are powerful, conical, vertical, glossy, and armed with teeth on the inner surface; the maxillæ are short, strong, and greatly enlarged and rounded at the extremity; and the lip is somewhat oval. These parts are of a dark-brown colour, the falces being much the darkest; the maxillæ have a yellow-brown hue at their extremity, on the inner surface, and the lip is marked with a longitudinal yellow band, which is contracted in the middle. The sternum is heart-shaped and glossy, with prominences on the sides and a pointed one opposite to the base of the lip; it is of a bright-yellow colour. The abdomen is subcylindrical, projecting over the base of the cephalothorax, and its posterior extremity, which is rounded, extends a little beyond the spinners; it is of a yellow-brown colour, reticulated and spotted with pale dull-yellow on the upper part and sides, the anterior extremity being the yellowest; many of the spots, which vary in size and form, are covered with white hairs having a silvery lustre; a series of three depressed spots occurs on each side of the medial line, and on its posterior half four fine lines are disposed longitudinally; these spots and lines have a brown hue, and two large irregular spots of a darker brown are situated on the lower part of each side; the under part is of an olive-brown colour, with four slightly curved, pale-yellow lines, which describe a quadrilateral figure in the middle; the spinners and the branchial opercula are of a brown colour, the inner margin of the latter having a dull-yellow hue; the sexual organs are well developed, with a longitudinal septum in the middle, and the anterior margin presents two prominent, glossy convexities; their colour is dark-brown tinged with red.

Two adult females of *Nephila venusta* were included in the collection.

Genus ARGYOPES, Savigny.

Argyopes caudatus.

Length of the female $1\frac{3}{10}$ inch; length of the cephalothorax $\frac{2}{3}$, breadth $\frac{1}{3}$; breadth of the abdomen $\frac{7}{10}$; length of an anterior leg 2; length of a leg of the third pair $1\frac{1}{10}$.

The abdomen is large, and of a depressed oviform figure; its anterior extremity, which has the appearance of having been cut directly across, projects over the base of the cephalothorax, and its posterior extremity extends greatly beyond the spinners;

three strong conical prominences project from each side; and it is terminated by a membranous caudal appendage, with a minute conical prominence on each side of its base; the upper part is clothed with hoary hairs, and is of a yellow colour, with a broad, semilunar, brown mark at its anterior extremity, whose convexity is directed upwards; to this mark succeed five transverse bands of a darker hue, whose margins are very irregular, the first and last having their continuity interrupted in the middle; there is a series of four depressed brown spots on each side of the medial line, and four fine lines of a similar hue are disposed longitudinally on the posterior part; the colour of the caudal appendage is brown, and above it there is an oblong yellow spot; the sides and under part have a brown hue; the former are corrugated and marked with brownish-yellow spots and streaks, which are almost concealed by hoary hairs, and the yellow lateral tubercles are marked transversely with brown in the middle; a series of large, irregular, yellow spots extends along each side of the medial line of the under part, and minute spots of a similar hue occur in the interval between the two; the sexual organs, which are moderately developed, have a long, pale reddish-brown process in connexion with their anterior margin that is directed backwards, and their predominant colour, with that of the branchial opercula, is dark-brown faintly tinged with red, the latter being the paler. The eyes are disposed on the anterior part of the cephalothorax in two transverse rows; the four intermediate ones nearly form a square, the two anterior ones, which are seated on a small protuberance, being the largest of the eight; the eyes of each lateral pair are placed obliquely on a tubercle, and are near to each other, but not in contact, the anterior ones being much the smallest. The cephalothorax is compressed before, rounded in front and on the sides, slightly convex, with a broad, shallow indentation in the medial line of the posterior region; it is of a dark-brown colour, with a broad pale reddish-brown band extending from the front to the medial indentation, and brownish-yellow lateral margins; these colours are concealed, except at the base, by a dense covering of white adpressed hairs. The falces are powerful, conical, vertical, armed with teeth on the inner surface, and of a red-brown colour. The maxillæ are short, strong, and greatly enlarged and rounded at the extremity; the lip is semicircular, but somewhat pointed at the apex; and the sternum is heart-shaped, hairy, and has eminences on the sides opposite to the legs. These parts are of a dark-brown colour; the extremity of the maxillæ and the apex of the lip have a brownish-yellow hue; and a band extending along the middle of the sternum, from each side of which a streak is directed obliquely backwards and outwards, and two

minute spots on each side of its anterior part are of a yellow colour. The legs are long, provided with hairs and spines, and are of a dark-brown colour, the inferior surface of the coxæ and of the femora, especially at their base, being strongly tinged with dull-yellow; the first pair is the longest, then the second, and the third pair is the shortest; the tarsi are terminated by claws of the usual number and structure. The palpi are of a dull-yellow colour, the digital joint (which is supplied with spines and terminated by a curved, pectinated claw) being tinged with brown at its extremity.

The collection contained four adult females of this species.

Genus EURYSOMA, Koch.

Eurysoma Thorntoni.

Length of the female $\frac{1.3}{4}$ ths of an inch; length of the cephalothorax $\frac{5}{8}$, breadth $\frac{1}{5}$; breadth of the abdomen $\frac{7}{8}$; length of a posterior leg $\frac{1}{6}$; length of a leg of the third pair $\frac{1}{4}$.

The eyes are situated near the frontal margin of the cephalothorax; the four intermediate ones are seated on a protuberance and form a square, the two anterior ones being the largest and darkest-coloured of the eight; the eyes of each lateral pair are placed a little apart on a tubercle, and are distant from the four intermediate ones. The cephalothorax is convex, glossy, depressed towards the extremities, compressed before, broadly truncated in front, rounded on the sides, which are marked with furrows converging towards an indentation in the medial line of the posterior region, and is of a yellow-red colour. The falces are short, powerful, conical, armed with teeth on the inner surface, inclined towards the sternum, and of a brown colour, faintly tinged with red. The maxillæ are straight, and enlarged and rounded at the extremity; the lip is semicircular; and the sternum is heart-shaped, with eminences on the sides, opposite to the legs. These parts are of a yellow colour, the maxillæ and lip having a tinge of brown. The legs are short, provided with hairs, and are of a dark-brown colour, with the exception of the coxæ and about two-thirds of the femora from the base, which have a yellow hue; the fourth pair is the longest, then the first, and the third pair is the shortest; the tarsi are terminated by claws of the usual number and structure. The palpi, which are short, resemble the legs in colour, and have a curved, pectinated claw at their extremity. The abdomen is nearly circular, rather broader than long, without spines, glossy, moderately convex above, and projects greatly over the base of the cephalothorax; the upper part is of a deep-black hue, marked with numerous circular depressions, and with twenty-two bright-yellow spots,

of various shapes and sizes; sixteen occur on the margins, two in the medial line, and two on each side; the two smallest are situated on the frontal margin, and between them there are two others of an oval form; these latter spots are followed by a circular one in the medial line, to which succeeds a large one of an oblong heart-shape, veined with pale-brown; the anterior spot on the side is large and reniform, and the posterior spot is connected with a marginal one; the under part is much corrugated, and of a brownish-black colour, that of the spinners, which are encircled by a rim, being dark-brown; a large semi-circular band behind the spinners, and the space surrounding the pedicle by which the cephalothorax is attached to the abdomen, including the branchial opercula, are of a yellow hue, with transverse, forked, soot-coloured lines; the sexual organs are moderately developed, and of a dark-brown colour, tinged with red, that of the anterior margin, which is semicircular and rather prominent, being brownish-yellow.

This elegantly marked *Eurysoma*, two specimens of which were comprised in the collection, is dedicated to the memory of the late Richard Thornton, Esq., whose premature death, deeply deplored by his friends, has removed from his sphere of usefulness here an intelligent and zealous votary of natural science.

Eurysoma Walleri.

Length of the female $\frac{1}{4}$ ths of an inch; length of the cephalothorax $\frac{5}{8}$, breadth $\frac{3}{16}$; breadth of the abdomen $\frac{1}{2}$; length of a posterior leg $\frac{1}{4}$; length of a leg of the third pair $\frac{7}{8}$.

The cephalothorax is convex, depressed towards the extremities, glossy, compressed before, broadly truncated in front, rounded on the sides, which are marked with slight furrows converging towards an indentation in the medial line of the posterior region, and is of a brownish-yellow colour. The falces are short, powerful, conical, armed with teeth on the inner surface, inclined towards the sternum, and of a brown hue, tinged with yellow on the sides and at the base. The maxillæ are straight, and enlarged and rounded at the extremity; the lip is semi-circular; and the sternum is heart-shaped, with eminences on the sides, opposite to the legs. These parts have a yellow hue, the maxillæ and lip being tinged with brown. The eyes are situated near the frontal margin of the cephalothorax; the four intermediate ones are seated on a protuberance, and form a square, the two anterior ones being the largest and darkest-coloured of the eight; the eyes of each lateral pair are placed apart on a tubercle, and are distant from the four intermediate ones. The legs are short, provided with hairs, and are of a yellow colour, with brownish-black annuli, each femur having a

single annulus at its extremity; the fourth pair is the longest, then the first, and the third pair is the shortest; the tarsi are terminated by claws of the usual number and structure. The palpi are short, somewhat darker-coloured than the legs, and have a curved, pectinated claw at their extremity. The abdomen is nearly circular, rather broader than long, without spines, glossy, moderately convex above, and projects greatly over the base of the cephalothorax; it is of a yellow colour, with five depressed brownish-black spots, forming, near the frontal margin, a transverse curved row whose convexity is directed backwards, the two exterior spots being the smallest of the five; four similar spots occur on each side, parallel to the margin; four smaller ones form a transverse, slightly curved row near the posterior margin, whose convexity is directed forwards; and there are three similar spots on each side of the medial line, those constituting the intermediate pair being the largest and widest apart; the under part is much corrugated, and has a large, triangular, dark-brown mark in the middle, comprising within its vertex the spinners, which are encircled by a rim; the whole is encompassed by a broad yellow margin marked with depressed brownish-black spots, from which lines of the same hue pass towards the centre; the sexual organs are moderately developed, with a small, oval, brownish-yellow process in connexion with their anterior margin, and are of a dark-brown hue, tinged with red, that of the branchial opercula being yellow.

I have conferred upon this species the name of Horace Waller, Esq., an ardent naturalist, and the friend and fellow-traveller of Mr. Thornton.

Eurysoma Walleri bears a strong resemblance to the *Gasteracantha hemisphærica* of M. Koch (Die Arachniden, Band xi. p. 49, tab. 373. fig. 874), but differs from it in the number, distribution, and relative size of the depressed brownish-black spots on the abdomen, and also in some other particulars. The generic name *Gasteracantha* being quite inapplicable to a spider absolutely devoid of spines, I have placed this species, notwithstanding the numerous depressed dark-coloured spots with which its carapace is marked, in the genus *Eurysoma*, to which, for the same reason, I think it would be expedient to transfer *Gasteracantha hemisphærica*.

Genus PYCNACANTHA, Blackw.

Eyes small, disposed on the anterior part of the cephalothorax; the four intermediate ones are seated on a narrow, prominent protuberance directed obliquely upwards and forwards, and nearly describe a square; the two superior ones are placed

on the summit of the protuberance, and the two inferior ones, which are rather wider apart and the largest of the eight, are situated near its middle, in front; the lateral eyes are the smallest; those of each pair are seated obliquely on the outer side of a slender, elevated, upright tubercle, a little below its somewhat pointed extremity, and are separated by a moderately wide interval.

Maxilla short, straight, and enlarged and rounded at the extremity.

Lip semicircular, but slightly pointed at the apex.

Legs moderately robust; the first and second pairs are much longer than the third and fourth pairs, the first pair being the longest and the third the shortest.

Abdomen subglobose, provided on the upper part and sides with numerous, close-set, sharp-pointed spines, varying greatly in their dimensions.

Pycnanantha Meadii.

Length of the female $\frac{1}{8}$ an inch; length of the cephalothorax $\frac{1}{8}$, breadth $\frac{1}{8}$; breadth of the abdomen $\frac{1}{8}$; length of an anterior leg $\frac{7}{10}$; length of a leg of the third pair $\frac{3}{8}$.

The cephalothorax is compressed before, truncated in front, with prominent lateral angles, broadly rounded on the sides, somewhat convex, and has a shallow indentation in the medial line of the posterior region; it is thinly clothed with short, whitish hairs, and of a dull-yellow colour, the base being much the palest; a narrow brown band passes from between the lateral tubercles to the medial indentation; a longitudinal one, of a similar hue, but somewhat paler, whose posterior part is much the broadest, occurs on each side, and small black prominences, which are most numerous on the medial band, are distributed over its surface. The falces are conical, vertical, armed with teeth on the inner surface, and of a pale-yellow colour in front, the outer side and extremity having a reddish-brown hue. The maxillæ and lip are of a dark reddish-brown colour, the extremity of the former and the apex of the latter having a yellowish-white hue. The sternum is heart-shaped, with small eminences on the sides, opposite to the legs, and is of a yellow colour, with dark-brown margins. The legs are provided with hairs and spines, two parallel rows of the latter occurring on the inferior surface of the metatarsi and tarsi of the first and second pairs; they have a pale dull-yellow hue, and the tarsi are terminated by claws of the usual number and structure. The palpi resemble the legs in colour, and have a short, curved, pectinated claw at their extremity. The abdomen, which is clothed with short, pale hairs, is of a subglobose form, very convex above, projecting

over the base of the cephalothorax, and is armed on the upper part and sides with about fifty sharp-pointed yellow spines; two, much larger than the rest, are unequally forked, having a short spine on their outer side, and are of a red-brown colour, the anterior surface of the prongs and a broad annulus at their base being much the darkest; these spines are placed transversely on the most elevated part of the abdomen; it is of a pale dull-yellow hue, and has small black prominences distributed over its upper part and sides; the former has a narrow brown band extending from its anterior extremity to the spinners, near the middle of which there are two short brown lines curved towards each other, comprising in the interval between them a pair of spines; and the latter are marked with dark-brown transverse lines, bordered anteriorly with pale yellow; the under part is corrugated, and minute, depressed, brown spots are disposed in rows in the curved transverse furrows; the sexual organs present a narrow transverse orifice, and have a reddish-brown hue, that of the branchial opercula being yellowish-brown.

I have much pleasure in associating the name of my valued friend and correspondent, R. H. Meade, Esq., with this very remarkable Spider, which forms a connecting link between the species of the genera *Epeira* and *Acrosoma*.

XLI.—On two new *Plesiosaurs*, from the *Lias*. By HARRY SEELEY, F.G.S., of the Woodwardian Museum, Cambridge.

[Plates XIV. & XV.]

THOMAS HAWKINS, Esquire, to whose zeal English science owes many exquisitely wrought-out Reptiles of the Liassic seas, presented to the University of Cambridge a series of Saurians which grace the walls of the Woodwardian Museum. Two are *Plesiosaurs*, both of new species: one of them, already famous for having the unanchylosed bones described by the late Lucas Barrett in his paper on the *Plesiosaurian* atlas and axis, displays limbs, ribs, all the dorsal vertebræ, and much of the neck; the other and smaller fragment has a part only of the neck and back, ribs, episternum, coracoid, scapula, and clavicle.

The larger fossil seems to have been imbedded laying on its back, with the neck swayed laterally; but all the vertebræ now rest on the left side, so that the neck is curved, as though the head had been drawn back. Except the first four caudal vertebræ, the tail is wanting, and many vertebræ are absent from the middle of the neck. Mr. Barrett considered the remains to in-